Minutes
APS Users Organization/Partner User Council Joint Meeting
January 23, 2014
Advanced Photon Source
Building 401, Room A5000
Eric Landahl, Chair, APSUO SC
Mark Rivers, Chair, PUC

B. Stephenson:
Safety incident at BNL—NSLS U7 experienced a window blowout as a result of not following the procedure for LN2 boil off. This is a good safety reminder for how the APS is handing this task around the ring.
In the Radioactive Sample guidelines, we need to clearly define what constitutes background radiation (can occur from naturally occurring sources). How can a user know if a sample is at or below background levels? APS has been working on establishing guidelines—direct readings using an instrument are useful but not definitive—proposed guidance suggest comparing the quantity and source across three different radioactive material categories:
Elements in nature w/ both stable and unstable isotopes
Elements in nature w/ no stable isotopes
Elements with no stable isotopes that exist only as a result of human activities (transuranic elements)
Draft of guidelines handed out. These likely need more work. Stephenson reviewed each of the categories, briefly discussing examples and ramifications. Guidelines will progress through the standard approval process once a final version is set. Everyone is encouraged to think about this and talk to B. Glagola whenever clarification is needed.

Much progress has been made at DCS sector 35 in the last six months. The LOM is complete (including four labs) and staff has taken occupancy. Preparations for first experiment in March or April are underway. A photo progression of the sector development was shown. Stephenson showed projected milestones for the next four quarters. This is a very exciting project.

MBA Lattice/Upgrade Overview: We are proposing to change the scope of the upgrade project. This has to be handled carefully to ensure that the perception of the effort is correct. APS has spent a lot of time working on the project and involving the community—need to ensure that the community (and by extension their sponsors) continues to be involved. An article in Science

(January 2014) highlights the importance of managing directly the work on the MBA aspect of the Upgrade.

The Life and Environmental Science communities are an important part of APS that are strongly supported by NIH and BER—the proposed MBA upgrade will strongly benefit the wide range of techniques that these communities use. NIH and BER participate strongly with both CAT and APS beamlines. The October 2013 workshop highlighted the user community's strong interest in the benefits of the new coherent source benefits from a MBA lattice. Stephenson reviewed opportunities in microcrystallography of biological macromolecules that will be possible (but can't be done now). Specific scientific examples were reviewed. Stephenson also provided a look at how an MBA lattice is designed and how the technology is currently being used. There is a strong international level interest in this technology now and it is being actively pursued in many countries. Improvements in the parameters of the ring justify calling it a fourth-generation ring. To remain competitive we need to pursue this. Practical questions resulting from the *Science* article include evaluation of the benefits of extra brightness vs. potential radiation damage, and will the CAT beamlines have to invest heavily in beamline upgrades to handle the brighter beam. A detailed table of flux and heat load comparisons between APS today and the MBA was reviewed. The possibly longer-than-usual shutdown would be carefully planned out and managed. Beamline improvements, if funding can be available, will be highly beneficial—this is kind of a natural window for beamline upgrades. A listing of potential communication opportunities was shown (meetings, presentations, articles, etc.).

Progress on the report from the Upgrade workshop was discussed. The preliminary report focuses on a subset of the science opportunities that were identified. A larger, full-coverage version will also be produced. The latest revision of the MBA lattice candidate designs was presented. Design work is ongoing, both here and at MAX IV and ESRF. A Workshop on Diffraction limited storage rings was held at SLAC in December 2013 that included accelerator and photon sessions. APS has offered to host the next one (2014). The goal is to be ready for CD-1 in August 2014. A timeline of design reviews was presented. Stephenson showed the MBA physics review committee listing (February 2014).

The FY2014 budget is being put together earlier this year than last. APS has not yet heard actual details of its budget (but this is expected soon). Projected FY 2014 numbers and an overview of staffing levels from FY11 through present were reviewed. For FY11 to FY15, a projected 7.5% reduction in staffing and 9% increase in beamlines should result in 16% increase in productivity. (Beamline 6-BM is getting turned on for white beam to assist NSLS users; the IEX beamline

being turned on). The May 2013 operations budget planned for 485 FTE; the current plan is 10% lower. The May 2013 budget review resulted in recommendations. The two big ones were a beamline-to-beamline evaluation of staffing requirements and to develop a plan to implement a systematic approach to R&D projects.

Upcoming reviews include the University of Chicago Annual Review (May 28-30) and the DOE Triennial Review (June 24-27).

S. White-DePace:
Changes in User Office (UO) staff responsibilities include that the UO is now handling User Agreements. Deena Blair is managing this effort (she will keep NUFO responsibilities). Karin Widuch has stepped in as the group administrative staff (replacing Deena). Rachel Reed has taken over training and will continue to assist with meeting logistics. Linda Carlson and Tara Videtic are co-handling/cross training for user registrations and foreign visits and assignments (FVA).

Back up and succession planning requires that the automation of systems and e-mails be successful. Recent modifications to UO area layout will provide the user office with a "front door" and will co-locate staff all in one place for ease of communication. User files have gone electronic and historical documents are being consolidated and moved into ICMS.

After an FVA audit at ORNL, concerns were raised, and all labs including ANL are reviewing their FVA processes. Our current practices need to be revised to meet the requirements of DOE. Hosting is a shared responsibility and everyone needs to be a part of the process, including administrative staff, security, management, scientific staff, etc. The ANL management response to the internal audit report was reviewed. The biggest possible impact we face is the elimination of two-year badges and switching to gate passes. The FVA working group is meeting to discuss the best way to move forward with the Lab's assessment.

For run 2013-3, for all experiments, use of the EEF system to collect (at a minimum) responses to the so-called APS mandatory question was put into place. Ongoing issues include sending an end-of-cycle reminder, repetitive MX work for biology lines, and databases that are not compatible in terms of data overlap/sharing.

No final decision is available yet for the policy regarding minors being out on the experiment hall floor:. A committee has been established by CEPA to look at this issue. The charge to the committee was presented.

A calendar of upcoming NUFO events was reviewed. The group was asked for ideas for "hands on" activities that could be presented at various meetings.

J. Toeller:

Toeller discussed the LN2 system improvements and reviewed the situations from June and August that led to low tank levels and accompanying detrimental impacts on the beamlines. In both instances, Airgas did not communicate with the APS regarding the delivery/supply issues. A task force was convened to address the issues resulting from these instances. The task force recommends that Airgas install telemetry on the remote storage tank to track levels and initiate automatic re-orders (in progress). Also, the APS tanks should be filled first each day (completed). The task force also looked at replacing the B and C modules (3000 gal. capacity) with larger 9000 gal. tanks. This would provide a safe buffer. The task force also made several hardware recommendations: installation of sub-coolers, installation of pressure stabilizers on each tank, installation of a particulate filter downstream of the storage tanks to catch ice crystals, and installation of keep-full valves and purge valves on both sides of each interconnect valve. This last task will take three shutdown periods to accomplish starting in September 2014 (this task will impact the two adjacent beamlines for the duration of the work). The PLC controllers for each module are currently being updated and storage tank level alarms are being added to each module. Procedures and existing surveillances were evaluated—new procedures include APS dewars being added to Airgas' high-volume watch list and we are also instituting a daily check. The force is also looking at instituting a subscription-based notification system for alarms. Better documentation of training requirements and tracking is also being instituted.

D. Mills:

The GUAC Committee meets semi regularly, with the next one taking place in February (the last one was late 2011). The GUAC collects comments, suggestions, and complaints. The last round of PRP meetings gave input. The GUAC would like volunteer names from the life sciences council, the PUC, and the APSUO to poll staff and colleagues to input, and will also get a BAC member to participate along with CAT and XSD beamline scientists. Mills reviewed the output from the last GUAC: rapid access for 11-BM mail in, reconstituted review panels according to beamline groups rather than discipline (Structural Science), an increase in size of references field in the GUP form, and if a proposal is a resubmission adding a proposal field for the proposer to

elaborate. The PUC volunteer is Robert Gordon; APSUO volunteer is Binhua Lin. Questions asked included what will we do with DCS proposals? A new panel? Divide by discipline? What about 6-BM?

For a proposed trip by Stephenson, the life sciences community would like to have representatives going with. This should be acceptable, as BES is not sending any staff. Moffat and Fischetti would go. Joachimiak (BER funded) should go if Stephenson will be talking to BER.

Additional time for life sciences to possibly plan for follow-on workshops is needed. The group would like to revisit the document that was prepared for the original phase of the Upgrade as it needs to be looked at again in light of the new focus.

In terms of User Meeting workshops, this year is critical for making a strong scientific case for the new focus of the Upgrade.

PUC Executive Session Summary:
In response to the plan for the APS Director to visit NIH as mentioned during the open session, the Partner User Council believes strongly that he should be accompanied by representatives of the NIH-funded and BER-funded beamlines. The message to be communicated is somewhat tricky. He will need to stress that all beamlines will be able to benefit from the change in focus of the APS Upgrade, but that to take optimal advantage of the reconfigured source, the funding sources for CATs need to made aware of the need for additional resources.

Additional discussion focused on the possible need for more science-based workshops. With only 10 months before the APS Upgrade team wants to obtain CD-1 approval, there may not be much time to develop a more detailed science case. However, there may be a need for additional workshops on topics such as detectors (possibly inviting detector companies to attend and present what they can do and listen to what the users believe they will need).

PUC members would like to see how the proposed new suite of beamlines maps on the list of planned beamlines in the previous interation of the Upgrade plans. For the Life Sciences community, there needs to be a complete reassessment of needs for existing CATs to take advantage of the Upgrade capabilities. This issue will be addressed at an upcoming LSC meeting. Clearly the projects proposed for the original “Proteins to Organisms” chapter of the draft CD-0 report need to be revisited.

With some programmatic changes at the NIH, Andrzej Joachimiak will probably submit an application for a P41grant that may grant greater access to the Advanced Protein Crystallization Facility by making it a true user facility.

Attendees: L. Assoufid, M. Beno, B. Bunker, R. Gordon, D. Keane, L. Keefe, E. Landahl, R. Leheny, B. Lin, I. McNulty, M. Meron, D. Mills, W. Ruzicka, C. Segre, B. Stephenson, S. Strasser, J. Toeller, C. Vanni